MISSOURI BOTANICAL GARDEN

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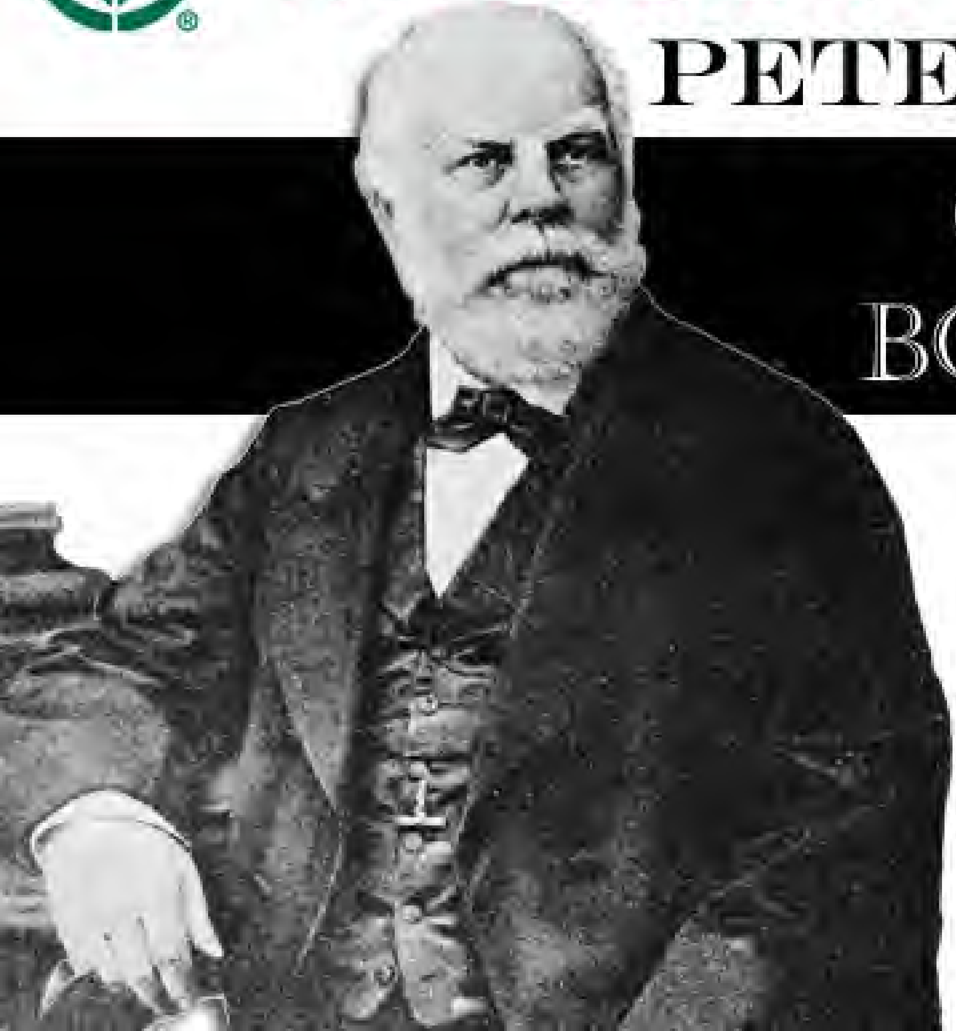
GEORGE ENGELMANN BOTANICAL NOTEBOOKS



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Rec March 6
ans Feb 13 1878

School of Mines, Columbia College,
Corner 49th Street & 4th Avenue,

New York, March 3d 1877

Dr. Geo Engelmann

My Dear Sir

I have been almost constantly absent from New York since Christmas and as a consequence my correspondence has been much neglected. Among the many letters which have been accumulating for me is yours of Nov 24. Have I answered it?

If not I do so now by saying that in "Jan 1859" I was safely back from the San Juan Expedition — Macomb, & collecting nothing

My Collections ~~of~~ plants made on the San Juan Expedition were sent to the Smithsonian, but were never examined and reported on.

I did receive your papers on oaks & Agave, and thank you kindly for them.

Yours very Truly
J. S. Newberry

In June 1859, however I was
in the Rocky Mts of S.W
Colorado. and I did collect
Abies grandis there. Perhaps
the specimen given to
was obtained by me there
and then.

San Juan Expedition

At the Pagosa I obtained
Abies Douglasii. A menziesii
& A. grandis, all of which
I had traced around to
this point from Washington Terr
I believe they all reach eastward
into the Rocky mts N. of
Santa Fe.

On referring to my notes
I find that I was at Santa Fe
in June 1859. Starting westward
Early in July.

12796

Hooker writes to Sargent Dec 15 1880

Over

Engelmann's letter about Abies Lowiana puzzles us all
The only way to work these conifers is to have them growing. — —
— I saw nothing like the whitish or bluish concolor in the Sierras — —
Engelmann now says that nobilis and magnifica are one species! Two more distinct species I never saw! Magnifica, the terete-leaved species of the high Sierras from Shasta to Mt Stanford and the Silver Mt Pass we have plenty in Cultivation. On the other hand Gray and I saw no specimen whatever of Douglas' nobilis, of which hundreds of specimens are in England, 50 years old

As to amabilis no one ever here doubted ~~what~~ that was: it is most distinct in foliage. It is plenty in England.

The real difficulty now is to determine Lowiana, Parsoniana & lasiocarpa one of which is no doubt Douglas' grandis — The common Sierra tree (below magnifica, but meeting with it) pale bark, long, flat leaves is what our nurserymen call Lowiana; I have always supposed it to be Douglas' grandis.

12797

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Rec Dec 30 1880

Here is an other nut for you to crack. If you can make out what they are trying to talk about. You will do well – better than I can.

Hope you had a jolly Xmas. & that the New Year will do as much for you as the last. Can I send some? How are you now off for nervous stimulants?

C. S. Sargent

1, In 1878 I published / a
~~Since the publication of my~~ Synopsis of the Am. firs in these Transact. vol III. p. 593. in 1878 / ~~Our exploration of the~~ last year western Mountain regions in company with Prof. Sargent and in part with Dr. Parry has ~~[illegible]~~ ~~[illegible]~~ and the study of the specimens there obtained has ~~[illegible]~~ [illegible] on this interesting branch of botany and ~~suggests the~~ thus the propriety of a revision of that synopsis is suggested, especially in the ~~[illegible]~~ section of Grandes and in that of Nobiles. ~~In the introduction~~ I have little to add to the introduction but may state that the hypoderm of strengthening cells are now generally classed with the sclerenchym fibres or cells. Φ

A. subalpina is not rare in the only species in the Rocky Mountains north of Pikes Peak and ~~to the British Possessions~~, westward it extends to the Cascade Mount. of Oregon and Washington Territory, where near the Columbia River it often associates with A. nobilis & A. amabilis; while northward it here again becomes the only ~~Abies~~ species and extends as far as the 58 or 59 deg. Lat; where Mr John Muir has found it + forming dense snow pressed thickets, of 2–3' feet high, with imbricate branches and so rigid that one could walk over them rarely rising to 15 feet. + on Stachine River (at the head of Navigation alt 5000'), on the eastern slope of the Mountains N.E. of Sitcha

The short bracts are (not usually as stated) ~~emarginate~~, but commonly rounded. The species can always be distinguished from all other western species by its ~~parenchymatous~~ resin ducts imbedded in the parenchyma × and from the similar A. balsamea by the abundance of sclerenchym fibres, which are almost entirely absent in the eastern species.

× Note in very young trees with thin leaves, I find sometimes in this most pine as well as in balsamea the ducts close to the lower epidermis, a condition which never prevails in adult or well grown trees. In the Japanese A. firma ~~we find this~~ the same difference is ~~[illegible]~~ [illegible] much more striking: the young tree with ~~[illegible]~~ notched leaves of A. bifida, has peripheral ducts and the adult tree with entire leaves (A. firma) shows parenchymatous ducts, [illegible] again the necessity of studying besides the slender (easily reached!) lower branches of firs also the fertile branches of adult trees.

Φ I had omitted in my paper to notice the surface or colour of young branchlets, or shoots as I ~~thought~~ them variable, but I find them more constant, and a character which may help to some extent in defining species. The resinous coating of terminal buds seem to be much insisted on by nursery men, but I find that very unreliable; it depends probably on biology [illegible] condition of individual specimens

amabilis Cascades + Br Poss. Cass. Silver Mt northern not in Califor., Douglas – what Douglas says?

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2. The absence of these sclerenchym cells ~~in characters which~~ singularly enough distinguishes also the eastern Tsuga Canadensis from the western T. Mertensiana and the eastern Pinus strobus from the western P. monticola, both otherwise so closely allied.

There is some confusion in my account of Var fallax, p. 597. The scales and consequently the cones are larger than I have seen them in other forms of A. subalpina, but the short bracts are rounded and mucronate, ~~and~~ Dr R. has also collected the true A. amabilis and has [illegible] figured it in Wheeler Rep. 6. Bot. 51, but has thrown both together; the scales on that figure at least the one on the left hand side must belong to fallax; those of ~~amabilis~~ are always acuminate, even in Dr R. own specimens. ~~coll. on the Cascade Mts~~

A. amabilis proves to be a peculiar and very distinct species, and can not be confounded with A. grandis, though it has ~~like it~~ a ~~glabrous~~ a light grey bark and ~~glossy~~ upper surface of the leaf, ~~destitute of stomata~~ entirely destitute of stomata, but the shoots are always hairy, while in Grandis they are glabrous, and the leaves are darker glossy green and much more crowded, the those of the upper side of the branch ~~upper ones~~ not or scarcely shorter than the others ~~lower~~ ones and giving the branchlets a semi-cylindric aspect. ~~The leaves of the ... I had, not knowing their other characters, ... take it for a densely leaved form of grandis (var. densifolia l.c.)~~. The lateral and lower branches bearing emarginate, the fertile ones sharp pointed leaves, a character which it shares with A. subalpina [illegible]; the cones are very large and thick, nearly of the same size as those of A. magnifica, ~~(I have measured them 6 inches long and 2½ in diam. (not fully grown)~~ rather narrower in proportion to the length thereof ~~and are always dark purple~~; scales broad, bracts ~~enclosed~~, obovate, acuminate, enclosed, with purple ~~at tip~~ upwards; wing of narrow seed cuneiform. The figure in Lambert Pin. 1842 named A. grandis represents this plant pretty accurately, though the leaves ~~are~~ ought to be much more crowded. A good representation is given in the Gardeners Chronicle Dec 4. 1880, from Photographs taken by [illegible] of the living specimens ~~gathered at ...~~

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Dr Hooker to A Gray. Jan 29 '79

= *Picea* (Firs)

Syme of Elvaston has opened my eyes considerably though I am as yet not clear, and these are crude identifications as yet.

1. *P. amabilis* Dougl (Douglas sp. in Hb. Hook & Hb Gordon [now in Hookers possession] is the coast plant which extends from Mendocino to Vancouver — leaves broader towards tip; branchlets hairy, cones small. Plenty of live plants at Kew. — *we* [Hooker & Gray] never saw it.

valleys & low grounds

2. *P. grandis*, *lasiocarpa*, *Lowiana*. There are two species under these names, but I do not know now how to distinguish them nor how the names should go. My father founded *lasiocarpa* on a Douglas sp. which Douglas probably intended for *grandis*. It has short shining leaves, different from *lasiocarpa* of the gardens (which was first introduced by *Low* and is also called Lowiana) *we* did not get it.

grandis Dougl a River flat & valley species

3 *P. Lowiana* (lasiocarpa Hort) the fir *we* got so abundantly in Calif. I do not find it north of Oregon if it gets so far. I doubt if Douglas ever saw it — mountains from Calaveras to Shasta. Bracts included.

Mountains

4 *P. nobilis* with exsert reflexed bracts from Oregon northward. This *we* never saw. Leaves always flat and grooved above, but crowded like the next

Mountains

5 *P. magnifica* the most distinct of the lot by far. the only one you may infallibly recognize by the leaves being 4-sided, not flat above with a groove. I can not conceive how we overlooked a character so obvious. Cones largest of all; bracts either exsert or included. We have no Oregon specimens.

Mountains

12800

Then, with regard to the Rocky Mtn species we have:

1. A. concolor. I find no specimen from Sierra Nevada and feel sure that Engelmann is wrong about this. We have it from Fendler, La Veta, Pikes Peak & from Engelmann. — We gathered one at Manitou, or is this subalpina?
? montana Hbs Howard [?]

2. A subalpina more like magnifica in foliage than concolor
leaves often rigid & acute.
? Side of Cascades Lyall lat 49. up to 6000
Chreston 9500. Brandegee — Cones small and scales rounded. Bracts with 2 lobes and sharp cusp (but so have others) [yes, subalpina!]

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subalpina
Cascades, Sargent smooth
Alaska Muir & White resin
Mt Adams Parry

Bark very full of balsam vesicles

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McNab, Dublin 1877. Over

Pinus I Abies

pag

674. 1. P. bracteata Don

676. 2. P. religiosa HBK

677. 3. P. amabilis Dougl. Ed. Bot. Garden — San Juan Island, Lyall. 1858 — Lake Chilukweyak Brit Col. Cascade Mts, 49° Lyall 1859 — Cascade to Fort Colville
409 Jeffrey Mounts of Frasers River

678. 4. P. grandis Dougl. Ed. Bot. Garden — 393 Frasers River, Jeffrey ~~Sept~~ 1851 in Hb Edinb. about 49° Lyall 1859 —
393 Jeffr. in Hb Kew 1852 [incorrect] same Lyall not quoted

680. 5. P. Lowiana Gord. "P. Lowii, Jeffrey 1854 Oregon" — P. grandis Calif. Murray — Califor Lowe, Clapton (in Hb Kew)

681. 6. P. concolor Engelm. Fendler 828 — [nothing else known about it].

682. 7. P. lasiocarpa Hook. (amabilis, Parlat. & Newberry!!) — Douglas — Lyall: Cascade Galton range & Colville Eastside of Cascade Mts — Douglas without name in Kew

684. 8. P. Fraseri Pursh cult. — Hoosack Mts Mass — Canada — New Foundland — [is evidently nothing but balsamea]

684. 9. P. balsamea Lin.

685. 10. P. sibirica Turcz.

686 11. P. Veitchii (selenolepis Parl)

686 12. P. firma Ant.

688 13 P. bifida Ant.

689. 14 P. Harryana n. sp (A Veitchii Hort)

690 15 P. Pindrow Royle

691 16. P. Webbiana Wall.

692 17 P. sp. n. allied to 15 & 16 Himalaya

693 18 P. pectinata Lam no natives examined — canals in parenchy-

694 19 P. Nordmanniana Stev " " "

694 20 P. Cilicica Kotschy. 370 Kotschy. [Kotschy 28 July 1855 is = Nordm

695 21 P. Cephalonica Endl Regina Amal & Panachaica are the same
Apollinis verges to Nordmanniana

697. 22 P. Pinsapo Boiss only cult. sp. — resin canals hypodermic
(Bertrand has: parenchymatous.

697 23. P. Baborensis Coss (Numidica)

698 24 P. sp. Drummond Rocky Mts (in Edinb. Garden!)

II. Pseudotsuga Bertrand — Carrière in part

699. 1. P. nobilis Dougl Grand Rapids Columbia Douglas 1825 — Jeffrey 398
Chastey lat 41 Cascades of Columbia Gardener.

700 2. P. magnifica (Abies Murray) cult in Edinb as robusta, sent by Douglas — Specimens from Jeffrey's seeds in Hort Edinb
Sierra Nevada Lobb — Califor Lowe
1480 Jeffrey P. robusta magnifica — (Campylocarpa Murray olim)

702 3. P. Davidiana Bertrand Thibet

702 4. P. Fortunei Parlatore P. jezoensis

703 5 P. Douglasii Sabine Fendler 829 — Wright 1885 — Nuttall.

🟥 Resin ducts hypodermic marginal or peripheral

🟦 parenchymatous

I 1–9 II 1. 2 & 5 = 12 species are American

12802

Jeffries is quoted by McNab:

A. amabilis Oregon Bound.-Committee in Hb Kew.
in Hb. & Mus Edinb. Jeffrey 409 Pic. lasiocarpa 1853 California
409 Picea sp. Mountains east of the falls of Frazer River Sept 27 1851,
"This 409 is lasiocarpa Balfour, = grandis Murray & ? Lambert and = amabilis Dougl.

grandis Picea 393 banks of Frazer's River from the falls to the Ocean Sept 1851
in Hb & Mus Edinbur. — same in Hb Kew.
"and is extensively cultivated as P. lasiocarpa"

Lowiana in Mus Edinb. Picea Lowii, Oregon, Jeffrey 1854
[Shasta, 1422 — in Hb Edinb. is not mentioned by McNab]

lasiocarpa Oregon 1853 in Mus Edinburgh and in Garden as
in my Herb. "Abies Lowiana" Shasta Jeffrey (magnifica robusta ?)

magnifica Oregon 1853 "Picea magnifica robusta" in Hb Edinb. P. campylocarpa Murray olim
No 1480 no 1422

(~~Shasta No 1422 is not mentioned — I got it in Hb. Edinb.~~)

Lyall is quoted:

A. amabilis San Juan Island 1858 (in Hb Kew all 3)
Lake Chilukweyak, Brit. Columb., Cascade Mts 49° — 1859
Cascade Mts to Fort Colville about 49° July 1860

lasiocarpa in Kew Hb. Cascade Mts, Gallton Range of Rocky Mts.
along Columbia River from 39° to 49°
Gallton Range 7000 feet alt.
(East side of Cascade Mts, Colville lat. 49 Aug 1860)
my sp. of Colville's is amabilis.

I have

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Nobilis	Branch	Bud
Hunnewell cult	pub	resinous
Arnolds large	pub	"
Dropmore cult	pub	"
Hoopes –	–	⊖
Coirb .	–	⊖

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Magnifolia	branch	bud
Lassen G.E.	pubesc	smooth resin— ciliate outer folia scaly
Shasta ? Lemm	smooth	
Shasta G.E	pubesc	
Shasta Brewer	pub	(smooth) not res. pubes.
[illegible] Bolander	"	
[illegible] cult	"	ciliate scaly
Big tree Bol	"	resinous
Carson Pass Brewer	"	ciliate

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Grandis ?	Branch	Bud
Mt Adams Suksdorf	slightly pub	large resinous
Cascades Sargent!	– 0 –	resinous

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